

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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In the Matter of)	
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Amendments to Part 4 of the Commission's)	PS Docket No. 15-80
Rules Concerning Disruptions to)	
Communications)	
)	
New Part 4 of the Commission's Rules)	ET Docket No. 04-35
Concerning Disruptions to Communications)	
)	
The Proposed Extension of Part 4 of the)	PS Docket No. 11-82
Commission's Rules Regarding Outage)	
Reporting to Interconnected Voice Over)	
Internet Protocol Service Providers and)	
Broadband Internet Service Providers)	

COMMENTS OF VERIZON

The Commission's outage reporting rules play an important role in achieving its critical public safety responsibilities under the Communications Act. As the Commission considers changes to its rules,¹ it should maintain a focus on major consumer-affecting outage events. The Commission should reject proposals that deviate from this focus or that add unnecessary or counterproductive obligations on providers.

I. ANY NEW RULES SHOULD FOCUS ON ADVANCING THE COMMISSION'S PUBLIC SAFETY RESPONSIBILITIES.

To further the Commission's important public safety duties, network reliability rules and policies should remain focused on major network failures with widespread geographic and

¹ See *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, 31 FCC Rcd 5817 (2016) ("*Further Notice*").

consumer impact that affect services most significant to emergency and other critical situations. From the outset, the Commission’s outage reporting requirements have focused on major service disruptions.² The Commission has adapted those rules over time to changing networks and consumer uses of communications services, but remained focused on critical communications networks and major outage events.³ During that same period, the Commission phased out routine service quality reporting relating to general network performance—rules that never applied to broadband or wireless providers.⁴ The result is a balanced approach to outage reporting and network reliability that allows the Commission to focus on major outages potentially affecting public safety. At the same time, companies compete on general network

² *Amendment of Part 63 of the Commission’s Rules to Provide for Notification by Common Carriers of Service Disruptions*, Notice of Proposed Rulemaking, 6 FCC Rcd 5531, ¶¶ 3-4 (1991); *id.*, Report and Order, 7 FCC Rcd 2010, ¶¶ 5, 18 (1992) (“systemic means by which to monitor major telephone service outages” and conceding “great difficulty in defining a threshold for reporting incidents that do not result in outages”); *see also id.*, Order on Reconsideration, 10 FCC Rcd 11764, ¶ 8 (1995) (“burdensome reporting requirements that provided little useful information and might interfere with attempts to restore service were in no one’s interest.”).

³ *See New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 1683 (2004) (mandatory rules for LECs and IXC’s and extending to SS7 providers and wireless providers); *Proposed Extension of Part 4 of the Commission’s Rules Regarding Outage Reporting To Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, Report and Order, 27 FCC Rcd 2650 (2012) (interconnected VoIP); *Further Notice*, ¶¶ 17-23 (redefining “major facilities” from DS3 to OC3); *see also* 47 C.F.R. § 12.4 (applying reliability certification requirements to 911 networks but not originating access networks).

⁴ *Service Quality, Customer Satisfaction, Infrastructure and Operating Data Gathering*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 23 FCC Rcd 13647, ¶¶ 8-15 (2008). These metrics included: noise, balance, loss, and distortion; “the percentage of calls uncompleted due to equipment failure or inadequate facilities;” network blockage; dial tone speeds, transmission quality, blocked calls, post-dial delays, and switch downtime. *Policy and Rules Concerning Rates for Dominant Carriers*, Second Report and Order, 5 FCC Rcd 6786, ¶¶ 338-349 (1990). But the Commission did not impose substantive service quality standards, recognizing that market forces will help promote network reliability. *Id.* ¶ 341 n.455.

and service quality issues, such as short-term wireless network congestion during high volume events or a broadband network's jitter and latency.

This balanced approach is working, as evident from wireless providers' intense rivalry based on service and network quality,⁵ and accommodates the lighter regulatory touch the Commission has recognized is appropriate for these services.⁶ The Commission should continue to rely on its specific public safety-related statutory mandates to guide its outage reporting rules. The Communications Act thus supports today's targeted approach to outage reporting, and a more calibrated approach than the *Further Notice* proposes.

II. THE COMMISSION COULD ADJUST EXISTING REPORTING THRESHOLDS AND SYSTEMS TO ACCOUNT FOR BROADBAND IMPACTS.

The proposed broadband outage reporting threshold is misdirected by focusing on non-outage events with an incidental and inconsistent relationship to consumer impact, geographic scope and public safety uses of communications networks. The Commission should instead work through the existing subscriber-based metrics and reporting systems to collect useful and targeted data on consumer-affecting broadband outages.

⁵ See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Eighteenth Report, 30 FCC Rcd 14515, ¶¶ 105, 125-35 (2015) (“2015 Mobile Competition Report”); Verizon News Release, *RootMetrics Ranks Verizon #1 Again* (Aug. 23, 2016), <http://www.verizon.com/about/news/its-sweep-and-six-peat-win-verizons-network>.

⁶ See *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 ¶¶ 37, 508-512 (2015) (forbearing from Section 214 and Section 218-219 information collection rules as BIAS providers have “marketplace incentives” to maintain “adequate facilities”); 47 C.F.R. § 20.15(c) and *Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services*, Second Report and Order, 9 FCC Rcd 1411, ¶¶ 182, 192 (1994) (forbearing from applying Section 214 and declining to exercise Section 218 and 219 authority for wireless).

Existing outage reporting metrics already encompass outages affecting broadband services, especially as service providers continue to transition their services and customers from circuit-switched to IP-enabled networks.⁷ So a better and more targeted approach to account for broadband outages would be to add additional “services affected” and drop-down fields to the existing “NORS” reporting system to account for changes in technologies. eNodeB cell site outages reported as wireless network outages, for example, will invariably affect the availability of both wireless voice (VoLTE) *and* mobile broadband service. OC3-and-higher major facilities outages, TSP Level 1 and 2 facility outages, and facilities-based VoIP outages will increasingly reflect broadband data services (“BDS”) outages in wireline networks.⁸ This targeted approach would both avoid duplicative filing burdens and use existing reporting thresholds to reflect the consumer and geographic impact of outages more accurately than the throughput-based methodology proposed in the *Further Notice*.

The proposed 22,500 Gbps user minutes throughput threshold for BIAS and BDS would not reflect actual outages in many cases, or an outage’s impact on consumers and its geography. And it would become an even less precise proxy for an outage over time. The *Further Notice* uses the *2015 Broadband Report*’s 25 Mbps standard for a single *household* as a proxy for a

⁷ Contrary to the suggestion in the *Further Notice* (¶ 102), fiber and IP-enabled networks are physically more sustainable and redundant, and less prone to outages than the copper PSTN. See, e.g., *Tech Transitions et al*, Declaratory Ruling, Second Report and Order and Order on Reconsideration, FCC 16-90 ¶ 90 (2016) (“a comparison between a legacy voice service and its potential replacement is not an apples-to-apples comparison” for service quality); *id.*, Notice of Proposed Rulemaking and Declaratory Ruling, 29 FCC Rcd 14968, ¶¶ 1, 15 (2014) (“transitions already are bringing innovative and improved communications services to the marketplace.”).

⁸ See *Further Notice* ¶ 130 n.355 (“it is highly unlikely that an entire large-scale facility would be dedicated to voice traffic only”).

single user.⁹ The 25 Mbps standard is relevant only to fixed, not mobile broadband services,¹⁰ though the *Further Notice* would apply it to both platforms. Unlike the *Further Notice*'s hypothetical outage affecting a 1 Tbps facility, most would occur closer to the “edge” of broadband networks where application of the proposed threshold is less straightforward and where existing reporting metrics already capture significant outage events. And the 25 Mbps standard is only incidentally related to consumers’ public safety needs, as the voice and data services on which consumers rely during and after emergencies require far less throughput than the video streaming and other entertainment-based services that underpin the 25 Mbps standard.¹¹ The proposal would thus dilute the connection between outage reporting and the Commission’s public safety responsibilities.

The proposed “service degradation” threshold of 1 Gbps throughput loss¹² underscores the hazards of classifying events other than a “hard down” service disruption as a reportable outage. Companies that compete in the marketplace by investing in and offering higher speed and high capacity networks would be disadvantaged vis-à-vis providers that only offer lower speed services. That is because the same amount of throughput loss would affect the former’s customers much less than the latter’s, in terms of affected users, geography, and usefulness of the service to customers—if it affected them at all. Both providers, however, would report an

⁹ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2015 Broadband Progress Report, 30 FCC Rcd 1375, ¶¶ 45-47 (2015).

¹⁰ *Id.* ¶ 74.

¹¹ *See id.* ¶¶ 29-40.

¹² *Further Notice* ¶ 138.

“outage.” And a static throughput loss number will become an increasingly unreliable indicator of consumer and geographic impact as broadband speeds continue to improve. As an individual consumer’s average throughput speed increases over time, a 1 Gbps throughput loss will affect fewer users, not more. The Commission should avoid this problem by using the current NORS system and subscriber-based thresholds of the current rules, and remaining focused on hard down outages.

A throughput-based threshold also would pose significant technical challenges and operating burdens. Broadband providers have limited visibility to events that occur outside their networks, and should not be “used as a central reporting point” for all broadband network outages. Mobile broadband providers in particular do not have visibility into throughput loss at that level of granularity within their networks; throughput speeds in a wireless broadband network will vary geographically due to factors like cell site density, topography, and peak usage. And given the increasing ubiquity and capacity of Ethernet-based wireless backhaul, the proposed 1 Gbps threshold for a “service degradation” event could turn an outage affecting just a single eNodeB into a reportable outage in just 30 minutes—even though that same outage affecting a single 2G site might not be reportable for several hours.

Wireline providers would face similar challenges. For example, it appears that nearly every “outage” within Verizon’s GPON 2.4 Gbps network could be reportable in 30 minutes, whether or not 1, 10, 100, or 1000 households were affected. And the *Further Notice*’s proposed “service degradation” indicia, such as latency and packet loss, would also occur during high volume usage periods and at best are only indirect and occasional indicia of a wireline or wireless network failure. So the Commission should work through the existing reporting

systems and thresholds to collect data on outages affecting broadband services rather than impose a brand new reporting burden.

III. MONITORING NETWORK CONGESTION WILL NOT ADVANCE PUBLIC SAFETY.

The Commission should not impose new reporting obligations for non-outage incidents of congestion on either wireless or wireline networks. Where equipment does not fail and a network performs as designed, the data proposed to be collected would not show whether equipment is “susceptible to failure in mass calling events.”¹³ And companies already have all the data they need to objectively analyze and network performance in congestion events. For example, Verizon already follows a long-standing “lessons learned” best practice to “analyz[e] such events in hindsight.”¹⁴ That is because Verizon has every incentive to address these problems through well-established engineering techniques and other methods.

IV. THE COMMISSION SHOULD ALLOW RECENT WIRELESS OUTAGE REPORTING RULE CHANGES TO WORK.

The Commission modified its outage reporting thresholds for wireless networks just a few months ago from the cumbersome “simultaneous call capacity” and concentration factor metric adopted in 2004 to a more competitively neutral and simpler formula based on percentage of sites out of service.¹⁵ The Commission should evaluate the impact of this rule change on the reporting of outages affecting rural areas before considering another distinct reporting threshold.

¹³ *Further Notice* ¶¶ 175, 178.

¹⁴ *See* CSRIC Best Practice 9-9-5227 (service providers “should perform after-action reviews of emergency response and restoration of major events to capture lessons learned (e.g., early warning signs) and to enhance emergency response and restoration plans accordingly”), at <https://www.fcc.gov/nors/outage/bestpractice/DetailedBestPractice.cfm?number=9-9-5227>.

¹⁵ *Further Notice* ¶¶ 35-38.

This would help avoid imposing new requirements that turn out to be unnecessary, while imposing duplicative IT and other operational and training costs. Wireless network architecture is such that outages affecting rural areas often result from events that affect more heavily populated adjacent areas as well, and that will increasingly be the case with more centralized LTE networks. And as with the current rules, any new standard would need to be applied uniformly across all wireless providers and across all jurisdictions to ensure that wireless providers are not subjected to multiple state-specific outage reporting rules that are inconsistent with the Federal rules and one another.

V. CONCLUSION.

The Commission's outage reporting rules should remain focused on major network disruptions with significant impact on consumers and the services they use in emergencies, while allowing marketplace discipline to otherwise govern service quality. The Commission should instead work within its existing outage reporting thresholds and the current reporting system.

Respectfully submitted,

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